

ABSTRACT

A method for the refining of primary silicon in hypereutectic alloys by mixing at least two hypereutectic alloys into a solid/semi-solid hypereutectic slurry is described. The method provides control of the morphology, size, and distribution of primary Si in a hypereutectic Al-Si casting by mixing a hypereutectic Al-Si liquid with solid hypereutectic Al-Si particles. The invention enables SSM processing of hypereutectic Al-Si alloys.